

Note to Readers: *EHP* strives to ensure that all journal content is accessible to all readers. However, some figures and Supplemental Material published in *EHP* articles may not conform to 508 standards due to the complexity of the information being presented. If you need assistance accessing journal content, please contact ehp508@niehs.nih.gov. Our staff will work with you to assess and meet your accessibility needs within 3 working days.

Supplemental Material

Measurement of Total and Free Urinary Phenol and Paraben Concentrations over the Course of Pregnancy: Assessing Reliability and Contamination of Specimens in the Norwegian Mother and Child Cohort Study

Virginia T. Guidry, Matthew P. Longnecker, Heidi Aase, Merete Eggesbø, Pål Zeiner, Ted Reichborn-Kjennerud, Gun P. Knudsen, Randi J. Bertelsen, Xiaoyun Ye, Antonia M. Calafat, Stephanie M. Engel

Table of Contents

Table S1. Limit of detection (LOD), number and percent >LOD, geometric means, and coefficient of variation for quality control samples (n=15 aliquots from common urinary pool of 10 women).

Table S2. Spearman pairwise correlation coefficients for conjugated concentrations of phenols and parabens in micrograms per gram creatinine for complete study sample and subgroups.

Table S1. Limit of detection (LOD), number and percent >LOD, geometric means, and coefficient of variation for quality control samples (n=15 aliquots from common urinary pool of 10 women).^a

Analyte	LOD (µg/L)	Species	N (%) >LOD	GM (µg/L)	CV (%)	Between-batch CV (%)
Bisphenol-A	0.4	Total	15 (100)	8.6	7.9	<5%
		Free	15 (100)	6.9	6.2	<5%
Butyl Paraben	0.2	Total	15 (100)	4.2	7.0	<5%
		Free	15 (100)	2.9	8.0	<5%
Methyl Paraben	1.0	Total	15 (100)	862.6	12.8	10.2
		Free	15 (100)	14.3	8.7	<5%
Propyl Paraben	0.2	Total	15 (100)	8.0	6.0	<5%
		Free	15 (100)	0.3	24.2	<5%
Benzophenone-3	0.4	Total	15 (100)	46.1	11.3	<5%
		Free	2 (13)	NC	NC	NC
2,4-Dichlorophenol	0.2	Total	15 (100)	0.3	24.5	<5%
		Free	2 (13)	NC	NC	NC
2,5-Dichlorophenol	0.2	Total	2 (13)	NC	NC	NC
		Free	0 (0)	NC	NC	NC

LOD = Limit of detection; µg/L = micrograms per liter; GM = Geometric mean; CV = Coefficient of variation; NC = Not calculated due to insufficient sample size.

^aInstrumental readings used for calculations with total concentrations; only values >LOD used for free fraction (instrumental readings below LOD not available). Quality control samples analyzed in three batches during a three week period.

Table S2. Spearman pairwise correlation coefficients for conjugated concentrations of phenols and parabens in micrograms per gram creatinine for complete study sample and subgroups.^a

Analyte	Complete sample (n=45)			Random Sample (n=30)			High-BPA Subgroup (n=15)		
	17 & 23 weeks	23 & 29 weeks	17 & 29 weeks	17 & 23 weeks	23 & 29 weeks	17 & 29 weeks	17 & 23 weeks	23 & 29 weeks	17 & 29 weeks
BPA	0.32	0.30	0.34	0.29	0.18	0.29	0.25	0.43	0.40
Butyl paraben	0.39	0.43	0.41	0.24	0.45	0.38	0.66	0.49	0.56
Methyl paraben	0.17	0.42	0.19	0.20	0.61	0.25	0.32	0.16	0.27
Propyl paraben	0.56	0.65	0.62	0.51	0.62	0.62	0.68	0.69	0.65
BP-3 ^b	0.75	0.62	0.53	0.65	0.48	0.42	0.90	0.90	0.79

BPA = Bisphenol-A; BP-3 = Benzophenone-3

^aComplete Sample (n = 45 participants, 135 samples); Random Sample = randomly selected participants with no previously measured BPA concentrations (n = 30 participants, 90 samples); High-BPA Subgroup = participants with high BPA concentrations in a previous random selection (n = 15 participants, 45 samples). ^bTotal concentrations (rather than conjugated) used for comparison because 89% of samples had free concentrations below the detection limit, precluding the computation of conjugated concentrations.